

**REMARKS**

Claims 14-16, 20 and 21 are pending in this application. By this Amendment, claims 14, 20 and 21 are amended. Support for the amendments to claims 14, 20 and 21 can be found, for example, at paragraphs [0012], [0013], [0030], [0031] and [0050] of the originally filed specification. No new matter is added.

Entry of the amendments is proper under 37 C.F.R. §1.116 because the amendments: (a) place the application in condition for allowance (for the reasons discussed herein); (b) do not raise any new issue requiring further search and/or consideration (as the amendments amplify issues previously discussed throughout prosecution); (c) do not present any additional claims without canceling a corresponding number of finally rejected claims; and (d) place the application in better form for appeal, should an appeal be necessary. The amendments are necessary and were not earlier presented because they are made in response to arguments raised in the final rejection. Entry of the amendments is thus respectfully requested.

**I. Claim Rejection under 35 U.S.C. §103**

The Office Action rejects claims 14-16, 20 and 21 under 35 U.S.C. §103(a) as being unpatentable over JP 08086324 ("JP '324"). Applicants respectfully traverse the rejection.

By this Amendment, claim 14, 20 and 21 recite the features "wherein in the case in which the porous material has a single layer structure, the porous material has a volume rate that is from 30 to 60% when a plate thickness of a portion of the porous material which contacts the secondary material in a direction spaced from the secondary material is not less than 1 mm and less than 2 mm, and the porous material has a volume rate that is from 20 to 60% when a plate thickness of a portion of the porous material which contacts the secondary material in a direction spaced from the secondary material is not less than 2 mm, and in a case in which the porous material has a double layer structure having a first layer proximate to the secondary material and a second layer proximate to the main material, the first layer of the

porous material has a plate thickness of .05 mm and volume rate of 60 or 70%, and the second layer of the porous material has a plate thickness of 0.5 mm and a volume rate of 20%."

JP '324 does not teach at least these claims features and does not provide any reason or rationale for one of ordinary skill in the art to have developed a composite material having these claim features, at least because JP '324 does not teach or suggest the relationship between the volume rate and the plate thickness of the main material and secondary material, as claimed in claims 14, 20 and 21. JP '324 does not teach that the thermal strain between the main material and the secondary material can be moderated and that the main material and the secondary material can adhere to each other by controlling the plate thickness and the volume rate. Thus, one of ordinary skill in the art would have had no reason or rationale to have developed the composite material of claims 14, 20 and 21.

JP '324 discloses a porous material (a sponge-like metal) having a plate thickness of 2 mm and a volume rate of 70% (porosity of 30%) and a porous material (sponge-like metal) that is laminated on a secondary material (the surface layer of the sliding surface). See JP '324 at paragraph [0030]. Thus, in JP '324, when a plate thickness of a portion of the porous material contacts the secondary material in a direction spaced from the secondary material which is not less than 1 mm and less than 2 mm, the volume rate is greater than the 20 to 60%, as claimed. See JP '324 at paragraph [0030].

Furthermore, the claimed invention would not have been obvious over JP '324 based at least on the unexpected results provided by claimed invention. Table 1 of the present specification shows composite materials with unexpected results and superior impregnation and adhesion performance over JP '324. The composite materials that are similar to the materials disclosed in JP '324 do not obtain the same effects as the material of claim 14. For example, sample no. 17 has a plate thickness of 2 mm but a volume rate of 70%, which

generally corresponds to JP '324. However, sample no. 17 is out of the range of claim 14, because the volume range of 70% exceeds the claimed range of 20 to 60% when the plate thickness is not less than 2 mm. Consequently, sample no. 17, the sample that generally corresponds to JP '324, shows defective impregnation performance. See specification at paragraph [0031], Table 1, sample no. 17.

Moreover, in JP '324, when a plate thickness of a portion of the porous material contacts the secondary material in a direction spaced from the secondary material that is not less than 2 mm, the two porous materials are laminated and are different from each other in volume rate. Accordingly, when the plate thickness of the overall porous materials is not less than 2 mm, the double layer structure of JP '324 is substantially different from the single layer structure of claims 14, 20 and 21.

For example, in a case in which the porous material has a double layer structure, as shown in sample nos. 25 and 26 of Table 1, when the first layer of the porous material proximate to the secondary material has a plate thickness of 0.5 mm and a volume rate of 60 or 70%, and the second layer of the porous material proximate to the main material has a plate thickness of 0.5 mm and a volume rate of 20%, the effects of the claimed invention are observed. See specification at, paragraph [0031], Table 1, sample nos. 25 and 26. On the other hand, when the composite material is out of the range of the claimed invention, the desired effects are not observed. See, for example, sample no. 27, which shows a poor impregnation performance when the volume rate is 80%, which is above the claimed range of 60 or 70%. See specification at paragraph [0031], Table 1, sample no. 27.

Therefore, one of ordinary skill in the art would have had no reason or rational to have developed the composite material of claim 14, 20 and 21 with the disclosure of JP '324, at least because the material disclosed in JP '324 does not have the impregnation and adhesion performance of the claimed invention. As a result, claims 14, 20 and 21 would not have been

obvious over JP '324. Claims 15 and 16 depend from claim 14 and, thus, also would not have been obvious over JP '324. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

**II. Conclusion**

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 14-16, 20 and 21 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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Attachment: Petition for Extension of Time

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